SUPPLEMENTAL INSTALLATION, OPERATION AND MAINTENANCE MANUAL

FOR

TRP Air to Air Heat Exchangers

INDOOR AND OUTDOOR

UNIT MODEL NO. _____
UNIT SERIAL NO. _____
SERVICED BY: _____
TEL. NO: _____

CANADIAN HEAD OFFICE AND FACTORY

1401 HASTINGS CRES. SE
CALGARY, ALBERTA
T2G 4C8
Ph: (403) 287-2590
Fx: 888-364-2727

USA HEAD OFFICE AND FACTORY

32050 W. 83rd STREET
DESOTO, KANSAS
66018
Ph: (913) 583-3181
Fx: (913) 583-1406

CANADIAN FACTORY

6130 97th STREET
EDMONTON, ALBERTA
T6E 3J4
Ph: (780) 430-0310
Fx: (780) 434-6272

SALES OFFICES ACROSS CANADA AND USA

Retain instructions with unit and maintain in a legible condition.
Please give model number and serial number when contacting factory for information and/or parts.

www.engineeredair.com

Table of Contents

SUPPLEMENTARY OPERATING, INSTALLATION AND MAINTANENCE INSTRUCTIONS FOR AIR TO AIR HEAT EXCHANGERS

OTHER MANUALS

Installation shall be in accordance with this supplementary manual and all other primary unit, associated component and control Installation, Operation and Maintenance Manuals.

YOU HAVE RESPONSIBILITIES TOO

This installation, operation and maintenance manual cannot cover every possibility, situation or eventuality. Regular service, cleaning and maintaining the equipment is necessary. If you are not capable of performing these tasks, hire a qualified service specialist. Failure to perform these duties can cause property damage and/or harm to the building occupants and will void the manufacturers' warranty.

INTRODUCTION

Engineered Air units are high quality products designed and manufactured to provide many years of trouble-free operation. We recommend that this manual be read thoroughly to ensure proper installation, efficient operation and proper maintenance of this equipment. The submittal record is considered to be part of the Installation, Operation and Maintenance Manual. Please report any omissions to the national service manager.

TRP heat exchangers are constructed of Aluminum flat plates, each formed to interlock into the adjoining cross sectional flow. Silicon caulking is added to ensure a tight seal between the exhaust and supply air streams. TRP exchangers are suitable for use in normal HVAC applications.

SAFETY PRECAUTIONS

Read, understand and follow the complete manual before beginning the installation, including all safety precautions and warnings.

Warning: ⚠	Improper installation, adjustment, alteration, service or maintenance can cause property damage, injury or death. Read the installation, operating and maintenance instructions thoroughly before installing or servicing this equipment.

WARRANTY

LIMITED WARRANTY ENGINEERED AIR will furnish without charge, F.O.B. factory, freight collect, replacement parts for, or repairs to products covered herein which prove defective in material or workmanship under normal and proper use for a period of twelve (12) months from the initial start-up or eighteen (18) months from the date of shipment, whichever expires sooner, provided the customer gives ENGINEERED AIR written notice of such defects within such time periods and provided that inspection by ENGINEERED AIR establishes the validity of the claim and all pertinent invoices have been paid in full. The repairs or replacements will be made only when the complete product(s) or part(s) claimed to be defective are returned to ENGINEERED AIR or a depot designated by ENGINEERED AIR, transportation charges prepaid. Repairs or replacements as provided for by this paragraph shall constitute fulfillment of all ENGINEERED AIR's obligations with respect to this warranty. The refrigerant charge is not included in any part of this warranty. This warranty does not apply to any products or parts thereof that have been subject to accident, misuse or unauthorized alterations, or where ENGINEERED AIR's installation and service requirements have not been met.

The foregoing warranty is in lieu of all other warranties, express or implied. ENGINEERED AIR specifically disclaims any implied warranty of merchantability and/or fitness for purpose. Under no circumstances shall ENGINEERED AIR be liable to, nor be required to indemnify, Buyer or any third parties for any claims, losses, labour, expenses or damages (including special, indirect, incidental, or consequential damages) of any kind, resulting from the performance (or lack thereof) of this Agreement or the use of, or inability to use the goods sold hereunder, including, but not limited to, damages for delay, temporary heating/cooling costs, loss of goodwill, loss of profits or loss of use. Furthermore, the parties agree that the Buyer's sole remedy under this Agreement shall be limited to the limited warranty set forth in the preceding paragraph relating to the repair or replacement of any defective goods. Under no circumstances shall any claim or award against ENGINEERED AIR exceed the original contract price whether awarded through arbitration, litigation or otherwise.

ENGINEERED AIR Warranty is void if:

1. The unit is not installed in accordance with this manual.
2. The start-up and operation of the unit is not performed in accordance with this manual.
3. The unit is operated in an atmosphere containing corrosive substances.
4. The unit is allowed to operate during building construction.

RECEIVING

Refer to the back of the packing slip for receiving unit instructions. On receipt of the unit, check for damage. Inspect protective covers for punctures or other signs that there may be internal damage. Remove protective covers and check for internal damage. Replace covers if the unit is not being assembled or installed at this time. Open access doors and check for internal damage. Close access doors when the inspection is complete.

TEMPORARY STORAGE

If a unit is to be stored prior to installation the following precautions are required:

- Store in a well drained area that will not accumulate surface water.
- Store in an area where the unit will not get damaged.
- All protective coverings that were provided for shipping must be in place.
- Protect from rain and snow.

Note: Installation shall be in accordance with this manual and all other associated component and control Installation, Operation and Maintenance Manuals.

CODES

In Canada:

1. The installation of this unit shall be in accordance with the latest edition of the Canadian Electrical Code, Part 1 – C.S.A. Standard C22.1, Provincial and Local Codes, and in accordance with the local authorities having jurisdiction.
2. This unit shall be electrically grounded in accordance with the latest edition of the Canadian Electrical Code, Part 1 – C.S.A. Standard C22.1, Provincial and Local Codes, and in accordance with the local authorities having jurisdiction.
3. The installation of this unit shall be in accordance with the latest edition of the National Plumbing Code of Canada, Provincial and Local Codes, and in accordance with the local authorities having jurisdiction.
4. The installation of this unit shall be in accordance with all other National, Provincial and Local Codes, and in accordance with the local authorities having jurisdiction.

In USA:

1. The installation of this unit shall be in accordance with the latest edition of the National Electrical Code (ANSI/NFPA 70), State and Local Codes and in accordance with the local authorities having jurisdiction.
2. This unit shall be electrically grounded in accordance with the latest edition of the National Electrical Code (ANSI/NFPA 70), State and Local Codes and in accordance with the local authorities having jurisdiction.
3. If the unit has not been provided with an electric disconnect switch, one of adequate ampacity shall be installed in accordance with Article 430 of the National Electrical Code (ANSI/NFPA 70).
4. The installation of this unit shall be in accordance with the latest edition of the National Standard Plumbing Code (NSPC), State and Local Codes and in accordance with the local authorities having jurisdiction.
5. The installation of this unit shall be in accordance with all other National, State and Local Codes, and in accordance with the local authorities having jurisdiction.

LIFTING

Engineered Air units are constructed on a structural steel base frame. The unit base frame is equipped with lifting lugs specifically located to facilitate proper lifting of the unit. Spreader bars must be used to keep rigging away from the unit cabinetry. All lifting lugs must be used. If using a lift truck, ONLY lift using the perimeter structural frame. DO NOT allow forks to lift on cabinet or unit floor.

Warning: 	Injury or death can result from improper rigging and lifting. Rigging and lifting of equipment must be performed by qualified personnel with proper equipment using appropriate and approved safety precautions.

MOUNTING

Units must be mounted level. Failure to do so can cause water to be trapped in drain pans or operational problems that can void warranty. Failure to do so can result in injury or death, damage the equipment and/or building and can be a cause of poor indoor air quality.

Equipment must be installed so that sufficient working clearance and component access is provided.

Engineered Air units are constructed for three types of mounting:

Base mounting – Unless the unit is specifically designed for point mounting, the base of the unit must be supported continuously by a mounting support system that is directly below the unit structural base frame and runs the entire length and width of the unit.

Suspended mounting – Where units have been designed for suspended mounting, factory provided connections for hanger rods will be provided. All hanger rod supports must be used. Suspended units must be protected from damage.

DRAIN TRAPS

Each drain connection requires a separate drain trap supplied and installed by the contractor. For a trap to work properly, it must be primed. During freezing periods, primed traps may need to be heat traced or drain and plug the trap when not in use. If a drain connection has a smaller pipe inside, connect to the outer pipe only. Ensure that the trap is of adequate depth to operate against a static that includes the extra pressure drop for dirty filters.

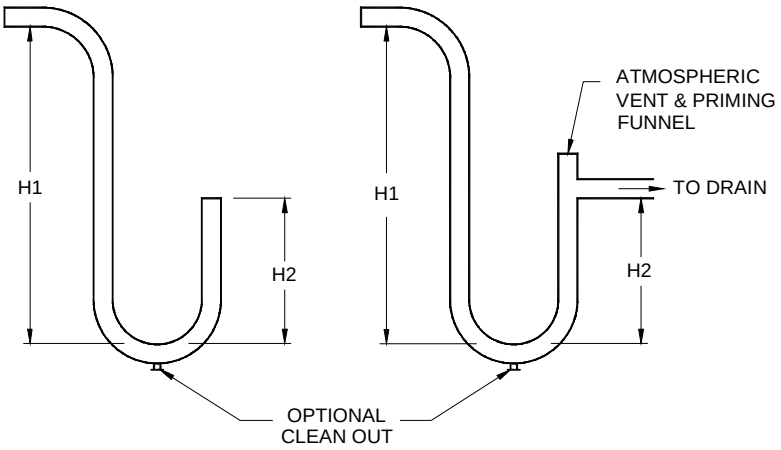
Warning:	Failure to properly trap each connection can result in drain pan flooding, standing water in unit, building damage, injury or death, cause poor air quality or other problems.

Multiple drains may be connected to a common drain providing that each drain is individually trapped and vented to avoid problems from drains in different pressure zones. The drain must be properly sized and sloped. Ensure adequate clearance for properly sized drain traps.

Size drain trap with the following minimum requirements:

a) Units With Draw Through Drain Pans:
   H1 = Negative Static† x 1.5 + 3.5” (89mm)
   H2 = Negative Static† x 0.75 + 2.5” (64mm)
b) Units With Blow Through Drain Pans:
   H2 = Maximum Positive Static† x 1.5
   H1 = H2 + 0.5” (13mm)

† Static Water Column (WC) in inches or mm including fully loaded filters.



MAINTENANCE

The entering air stream of both the supply and exhaust air should be filtered to prevent excessive dirt from entering the exchanger. Most often the buildup of any debris normally occurs in the first few inches from the face of the exchanger. In this case a brush or hot water with a bit of mild detergent is all that is required to remove the debris. Compressed air or a water hose can be used, however care must be taken to ensure no damage to the plates can result. Direct the water stream parallel to the plates. Do not spray directly onto the plate surfaces. Do not exceed 60 psi water pressure.

Warning: ⚠	Property damage or personal injury claims may result from mold or biological growth arising from improper installation, inadequate maintenance, or failure to inspect. Engineered Air has no responsibility for and makes no express or implied warranties regarding mold or bacterial growth or any other indoor air quality issues. If mold or biological growth is present, determine and fix the cause. Properly remove and dispose of the contamination. Properly clean and sanitize the affected area using only approved sanitizers suitable for HVAC equipment.

As an option, face and bypass dampers may be installed to control temperature, and protect against frost buildup. Check and confirm the operation of the dampers and controllers annually.

To provide a maintenance history, it is recommended that the owner have a maintenance file for each unit. Maintenance should occur every spring and fall, or as otherwise indicated by qualified service personnel.